

IN THE CLAIMS

Claim 1-16 (Canceled)

Claim 17 (New): A method of setting a predetermined clearance in a component drive train of an internal combustion engine; comprising:

(a) rotating an adjustment screw to adjust a position of a component engaging surface associated with a rocker arm from a reference datum position to a first reference position;

(b) rotating the adjustment screw through a predetermined reference angle and recording a second reference position of the component engaging surface;

(c) calculating a coefficient from the difference between said first and second reference positions and said reference angle;

(d) calculating an amount of angular rotation of the adjustment screw corresponding to a predetermined clearance between said component engaging surface and said reference datum using said coefficient; and

(e) rotating the adjustment screw said calculated amount of angular rotation to set the predetermined clearance relative to said reference datum.

Claim 18 (New): A method, as set forth in claim 17, including, setting said component engaging surface to a zero position and recording said zero position as a reference datum.

Claim 19 (New): The method, as set forth in claim 17, wherein said engine component includes an engine valve having a valve stem and an end, and including, engaging the end with the component engaging surface during adjustment of the position of the component engaging surface from the reference datum position to the first reference position.

Claim 20 (New): The method, as set forth in claim 17, wherein said component drive train includes a valve bridge disposed between said rocker arm and a plurality of engine valves, and including, engaging the valve bridge with the component

engaging surface during adjustment of the position of the component engaging surface from the reference datum position to the first reference position.

Claim 21 (New): The method, as set forth in claim 17, wherein said first reference position being a position at which backlash affecting the position of the rocker arm is substantially neutralized.

Claim 22 (New): The method, as set forth in claim 17, including, an engine valve having a valve stem and an end, and wherein said component engaging surface being connected to the rocker arm, and including, setting the rocker arm to a zero position at which said component engaging surface contacts an end of the valve stem without displacing the valve stem from a first position at which the engine valve is at a seated position.

Claim 23 (New): The method, as set forth in claim 17, including, moving said engaging surface to a zero position.

Claim 24 (New): The method, as set forth in claim 17, wherein said component drive train includes a push rod, an engine valve, and including, rotating the adjustment screw in a first angular direction to pivotally move the rocker arm in a direction away from the push rod and in a second angular direction for movement of the rocker arm towards the push rod, and wherein step (a) includes, rotating said adjustment screw in said first angular direction and displacing the engine valve from a first position at which said engine valve is seated toward a second position at which said engine valve is open to a third position intermediate said first and a second positions.

Claim 25 (New): The method, as set forth in claim 24, wherein step (a) further includes rotating the adjustment screw in said second angular direction through a predetermined angle such that said rocker arm moves to cause the engine valve to move from a third position to a fourth position intermediate said third and first positions.

Claim 26 (new): The method, as set forth in claim 25, wherein step (b) includes rotating the adjustment screw through said reference angle in said second angular

Claim 27 (New): The method, as set forth in claim 18, wherein the adjustment screw has a lock nut associated therewith, and including, loosening said lock nut prior to setting the component engaging surface to the zero position.

Claim 28 (New): The method, as set forth in claim 27, including, tightening the lock nut slightly subsequent to the setting of the component engaging surface.

Claim 29 (New): The method, as set forth in claim 28, including, tightening the lock nut fully after the predetermined clearance relative to said reference datum is set.

Claim 30 (New): The method, as set forth in claim 28, wherein said angular rotation calculated in step (d) corresponds to said predetermined valve clearance plus a correction distance representing a displacement of the second end of the rocker arm caused by said slight tightening of the lock nut.

Claim 31 (New): The method, as set forth in claim 30, wherein step (e) includes rotating the adjustment screw such that the second end of the rocker arm is displaced from the zero position in said first direction by said correction distance and the predetermined valve clearance is then set by rotating the adjustment screw through the angular rotation calculated in step (d).

Claim 32 (New): The method, as set forth in claim 18, wherein said rocker arm having first and second sides and including the step of applying a predetermined force to a one of the first and second sides of the rocker arm and moving said component engaging surface to the zero position.

Claim 33 (New): An apparatus for setting a predetermined clearance in a component drive train of an internal combustion engine having a rocker arm, a component engaging surface connected to said rocker arm; and an adjustment screw; comprising:  
an electronic controller;

Claim 33 (New): An apparatus for setting a predetermined clearance in a component drive train of an internal combustion engine having a rocker arm, a component engaging surface connected to said rocker arm; and an adjustment screw; comprising:  
an electronic controller;

an actuator operatively connected to said controller and adapted to move said component engaging surface in response to said controller;

a position sensor operatively connected to said electronic controller and being adapted to sense the position of the component engaging surface, said electronic controller being adapted to record the position of the component engaging surface;

an adjustment screw rotator responsive to said electronic controller to selectively rotate the adjustment screw and change the position of the component engaging surface; and

said electronic controller being programmed to cause said component engaging surface to set to a zero position and record said zero position as a reference datum, to cause the adjustment screw rotator to rotate the adjustment screw to adjust the position of said component engaging surface to a first reference position and then rotate the adjustment screw through a reference angle, to record a corresponding second reference position of the component engaging surface, to calculate a coefficient from the difference between said first and second reference positions and said reference angle, to use said coefficient to calculate an angular rotation of the adjustment screw corresponding to a predetermined clearance, and to cause said adjustment screw rotator to rotate the adjustment screw on the basis of said calculated angular rotation to set the predetermined clearance relative to said reference datum.

Claim 34 (New): A method of automatically setting a predetermined clearance in an engine valve drive train of an internal combustion engine; comprising:

moving a rocker arm relative to a push rod and eliminating a backlash associated with a push rod and rocker arm;

rotating an adjustment screw and setting a predetermined amount of backlash between the rocker arm and an engine valve;

applying a predetermined force to a lock nut threadably connected to the adjustment screw, rotating the lock nut in first direction, and tightening said lock nut to the predetermined force relative to said rocker arm; and

rotating said adjustment screw in said first direction and correcting a change in an amount of backlash from the predetermined amount of backlash caused by applying the predetermined force to the lock nut.

35. (New) The method as set forth in claim 34, including:

sensing the amount of movement of the rocker arm caused by the tightening of the lock nut; and

rotating said adjustment screw an amount sufficient to adjust the amount of movement and thereby maintain the predetermined amount of backlash.

36. (New) The method as set forth in claim 34, including moving the rocker arm in a first direction to a zero position at which a valve engaging surface contacts the end of the valve stem and establishing a reference datum.